

information@work



Digital Asset Repositories: Collaborating to Share

Randy Hoffman
NASA Goddard Library



NASA PM Challenge
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Outline



- Goddard Project Environment
- GSFC Library's Involvement
- Collaborative Tools and Methods
- Case Studies from Three Projects
- Benefits
- Lessons Learned

Setting the Stage



- **What does Goddard do?**
 - Most of the work is organized into projects
 - GSFC Projects Directory, compiled by the Library, has over 240 current and historical projects
 - Documentation from a project is often hard to find
- **What is the role of the GSFC Library in Knowledge Management?**
 - GSFC Library civil servants are matrixed to the KM Team
 - GSFC Library has experience in organizing internal and external information which supports KM activities

GSFC Library's Digital Preservation Projects



- Series of projects to collect and provide access to digital objects or metadata of long-term scientific and technical importance to GSFC
- Project began in 2001 with support from the Director's Discretionary Fund
- Part of GSFC's Knowledge Management Initiatives

Tools & Methodology Based on Collaboration



- **Technical infrastructure**
 - Digital Asset System
 - Goddard Core Metadata Element Set
 - Collaborative Development Methodology
- **Tools have been developed collaboratively with project managers and librarians over the course of three very different projects**
- **The collection for each project is built using a collaborative methodology**
- **Tools are built to be flexible to meet project needs within the common DAS Framework**

Tool: Digital Asset System



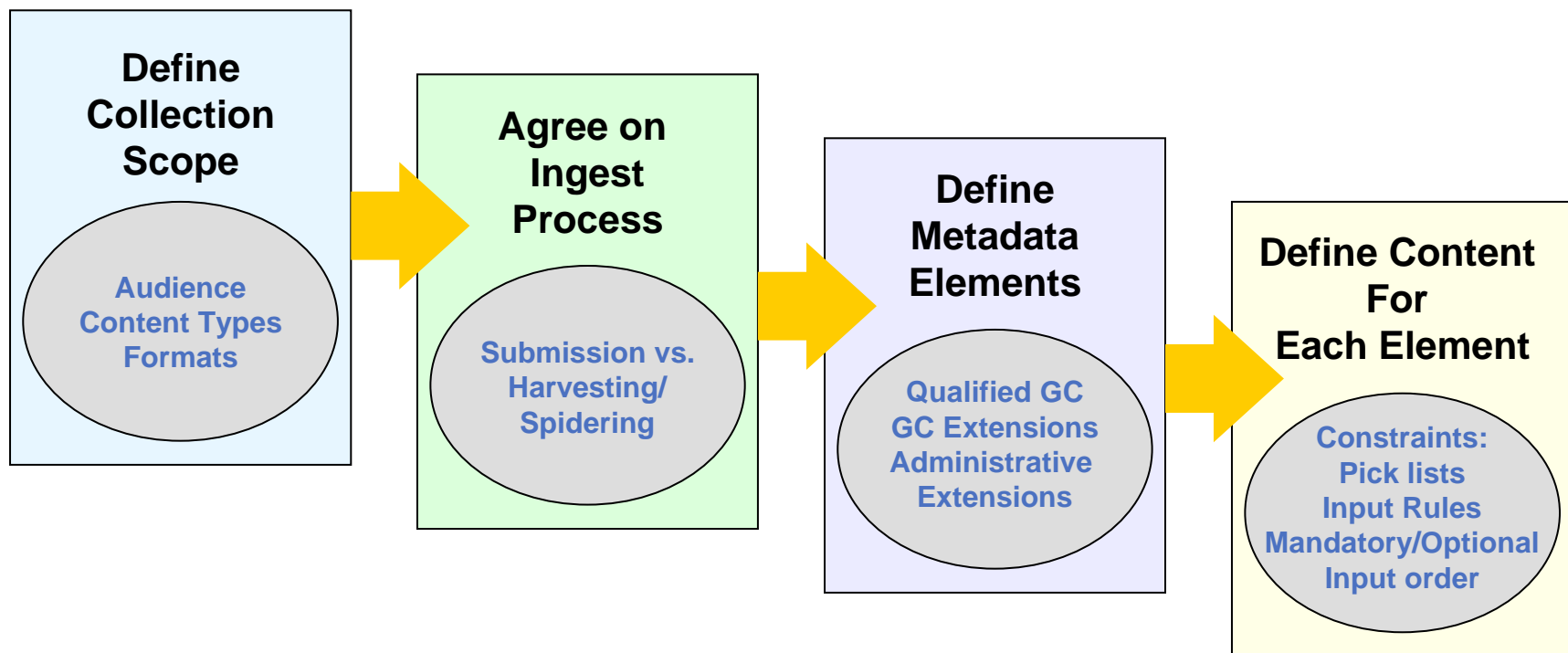
- Web-based system and repository
- Built on open source software
 - MySQL Database and Lucene Search Engine
- Current implementation includes digital videos, web sites, documents, and images

Tool: Goddard Core Metadata Element Set



- Goddard Core is based on Dublin Core, an ISO standard for describing digital objects
- 20+ elements including additional elements such as Instrument and Project Name that are of value to GSFC
- High level subject taxonomy based on the NASA-Wide Taxonomy

Methodology: Collaborative Framework



Collaborated with Three Projects



- Hitchhiker & Hitchhiker Jr.
- Swift
- Landsat

Collaboration 1: Hitchhiker & Hitchhiker Jr.



Shuttle small payload carrier systems

Project hibernated in 2003

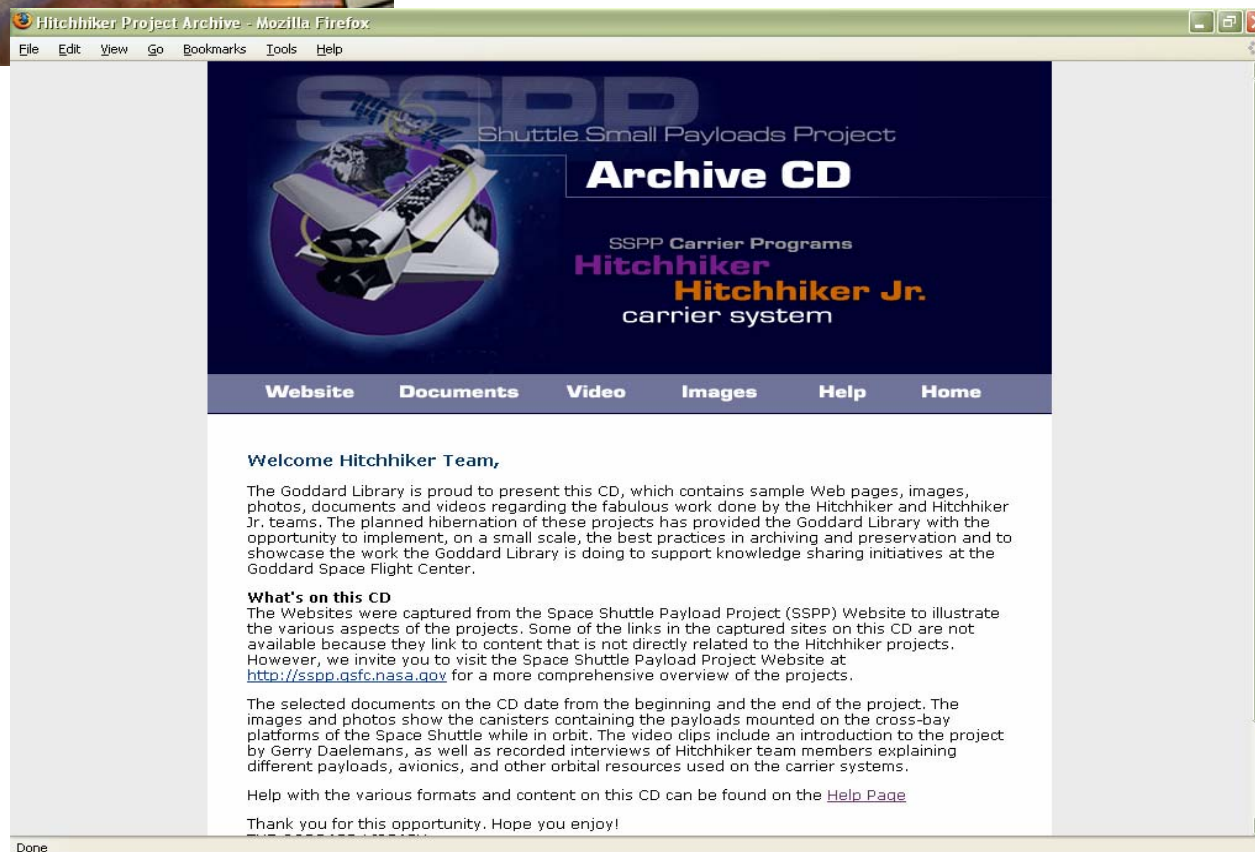
Library began late in the project to collect materials

Limited involvement by project staff

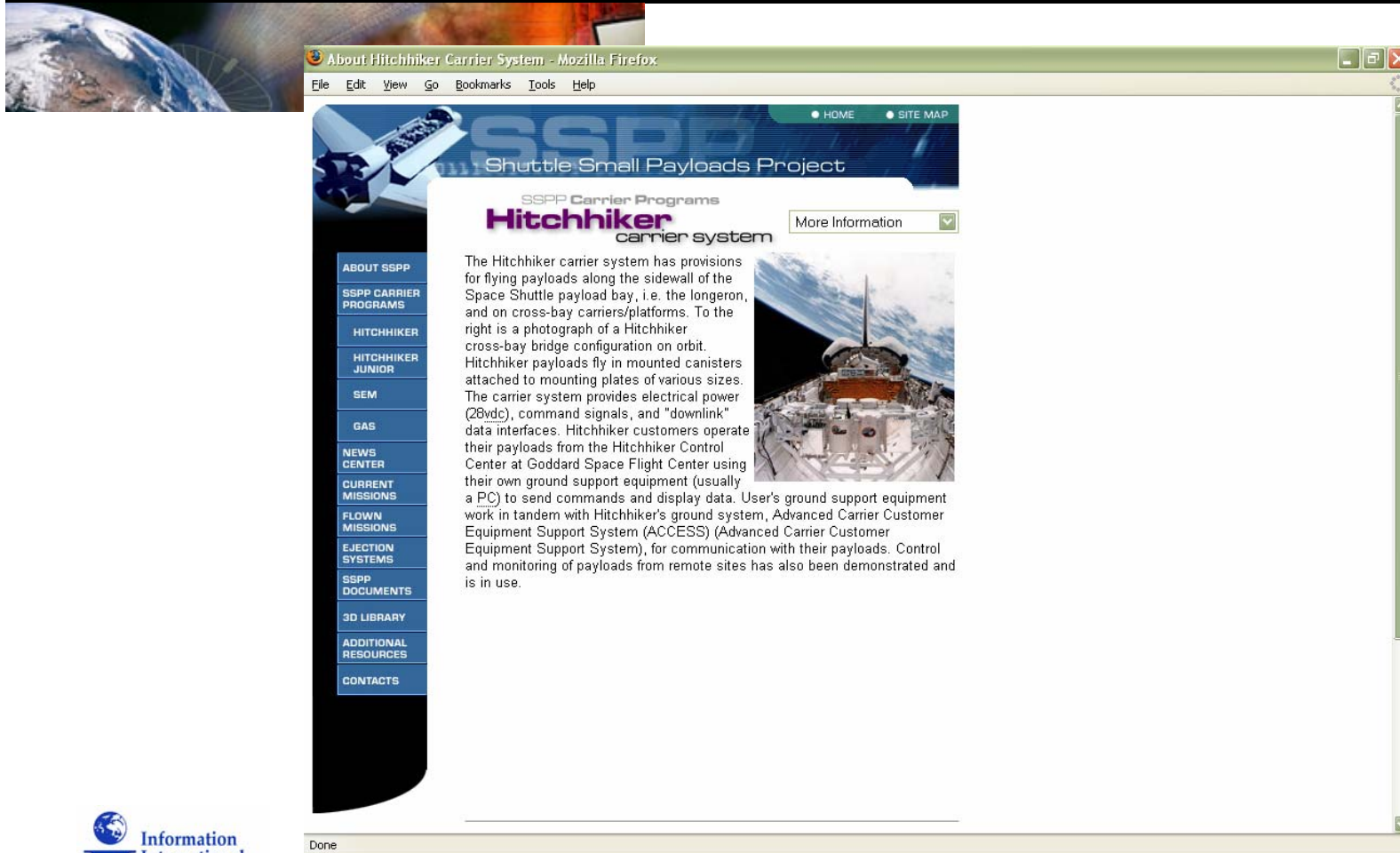
Created a commemorative CD

Included videos with key personnel, copies of the web site, pictures and posters, and a 3D software program

Hitchhiker CD



Hitchhiker Homepage



Hitchhiker 3D Library



SSPP 3D Library - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

HOME SITE MAP



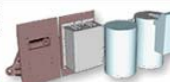
SSPP Shuttle Small Payloads Project

SSPP 3D Library

The SSPP 3D library uses the [Viewpoint](#) (note: the following links will open a new browser window, and lead you to a non-government site) 3D file format to bring 3D models of SSPP hardware to the web. Clicking on one of the model below should trigger the plugin to automatically install, however, you can also download and install the [plugin](#) prior to viewing the 3D models. We do not offer any support or make any guarantees that Viewpoint technology will run on your machine. For more information, visit the [Viewpoint](#) web site.

EXPERIENCE Viewpoint

3D Models Listing

| | | |
|--|--|-----------------------|
| Two Payload Canisters on Space Shuttle Sidewall. Right Canister equipped with motorized door. Click to view 3D Model of Two Payload Canisters on Space Shuttle Sidewall. |  | Viewpoint (30k-B) |
| Single Payload canister with Hitchhiker avionics. Click to view 3D Model of Single Payload canister with Hitchhiker avionics. |  | Viewpoint (93k-B) |
| Space Shuttle sidewall payload canister complement Hitchhiker Avionics. Click to view 3D Model of Space Shuttle sidewall payload canister complement Hitchhiker Avionics. |  | Viewpoint (343k-B) |

Done

Collaboration 2: Swift



- **Currently active project**
- **KM initiative to promote access to project information**
 - Documentation accessible via a Configuration Management System not geared toward access
 - Part of Explorers Program and only accessible via a coded value to distinguish Swift from other components
- **Swift information was unique**
 - All documentation is electronic
 - Totally internal project
- **Mapped the metadata elements from the Swift Project Library to the Goddard Core**
- **Extracted the metadata from the CCMS, transformed it and added it to the DAS**
- **Developed a taxonomy for Swift in the GC Metadata framework**
- **Obtained videos and images from Kennedy; captured web sites**
- **Developed a Swift-only interface to the collection**

CCMS to GC Metadata Mapping



| Swift (CCMS) Metadata Elements | | | | GC Metadata Elements | | | |
|---------------------------------|--|--|--|---------------------------------------|--|--|--|
| Number | | | | Identifier.Original | | | |
| Payload | | | | Subject.MissionProject | | | |
| Responsible Person/Organization | | | | Creator.Employee/Creator.Organization | | | |
| Title | | | | Title | | | |
| Alt Number | | | | | | | |
| WBS Number | | | | | | | |
| Sub System | | | | Subject.Instrument | | | |
| Revision/CH/DCN | | | | | | | |
| Submitted Date | | | | | | | |
| Approved Date | | | | Date.Available | | | |
| Approver | | | | | | | |
| Remarks | | | | | | | |

Swift Interface



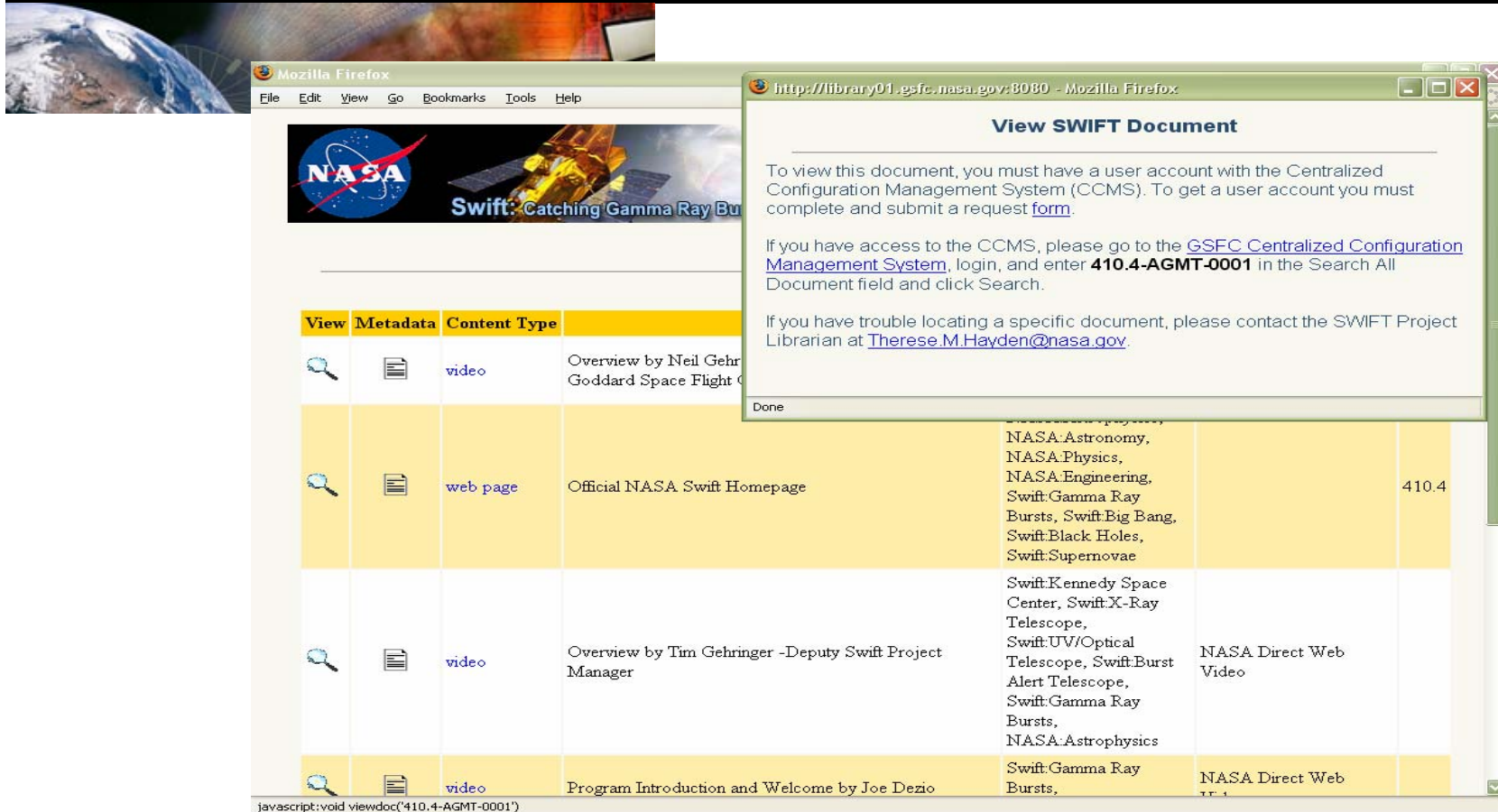
Welcome to the Swift Metadata Repository at the NASA Goddard Space Flight Center Library. This Metadata Repository will allow searching accross various objects in relation to the Swift spacecraft.
There are 6124 metadata records in this repository.

Search for: in:

[DAS](#) | [Help](#)

Responsible NASA Official: Robin Dixon
Head, Library Information Services Branch

Swift Search Results



View SWIFT Document

To view this document, you must have a user account with the Centralized Configuration Management System (CCMS). To get a user account you must complete and submit a request [form](#).

If you have access to the CCMS, please go to the [GSFC Centralized Configuration Management System](#), login, and enter **410.4-AGMT-0001** in the Search All Document field and click Search.

If you have trouble locating a specific document, please contact the SWIFT Project Librarian at Therese.M.Hayden@nasa.gov.

| View | Metadata | Content Type | |
|------|----------|--------------|---|
| | | video | Overview by Neil Gehr... |
| | | web page | Official NASA Swift Homepage |
| | | video | Overview by Tim Gehringer -Deputy Swift Project Manager |
| | | video | Program Introduction and Welcome by Joe Dezio |

javascript:void viewdoc('410.4-AGMT-0001')

Swift Taxonomy



- Captured key terms by attending project meetings and reviewing key project documents
- Library created draft
- Draft reviewed and approved by the project librarian and staff

Swift Taxonomy

Search for:

AND

AND

Responsible NASA Official: Robin D. Head, Library Information Services

in:

All

All

Done

Collaboration 3: Landsat Legacy




- Approached by the Landsat Program Science Office to preserve Landsat's technical documentation as it approached its 30+ anniversary
- Project is led by a Landsat contractor
- Close collaboration to define the Landsat taxonomy and design public interface
- Working together to identify funding for scanning paper documents
- Working with LPSO, USGS and other partner on outreach – joint papers, presentations and “marketing” materials

- Three major components added to the system:
 - Digitization of non-digital materials
 - Registration of materials from Landsat veterans
 - Extensive oral histories


Document Registration Form



Landsat Legacy Document Registry

 **GODDARD SPACE FLIGHT CENTER**

[+ NASA Homepage](#)
[+ Goddard Homepage](#)
[+ Goddard Space Flight Center Library](#)

 *The Landsat Legacy Project*

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LANDSAT LEGACY DOCUMENT REGISTRY

Please fill out a separate registration form for each document you are registering.
Fields labeled with * are required.

TITLE * of the resource to be described

AUTHOR (Name of the person or organization primarily responsible for creating the intellectual content)
If you have multiple authors, please press Enter key to separate each AUTHOR.

PUBLICATION DATE (If applicable, please select Year/Month/Date, Year/Month, or Year.)
Year please select Month(if any) please select Date(if any) please select

DESCRIPTION (Abstract, content description)

DOCUMENT INFORMATION *

Is your document an electronic file or a hardcopy? ☐ Electronic ☐ Hardcopy

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What is the document format? document name extension, e.g. pdf, doc, txt, ps, etc.
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If hardcopy, please answer:
Are you willing to scan the document? ☐ Yes ☐ No
Is the document bound or unbound? ☐ Bound ☐ Unbound What is Bound or Unbound?
How many pages does the document have?
Is the document an original or a photocopy? ☐ Original ☐ Photocopy
What is the document condition? ☐ Poor ☐ Fair ☐ Good ☐ Excellent
Are you willing to donate the document? ☐ Yes ☐ No
Do you want the document returned to you? ☐ Yes ☐ No

LANDSAT MISSION
please select LANDSAT MISSION
If you have multiple items, please repeat selection.

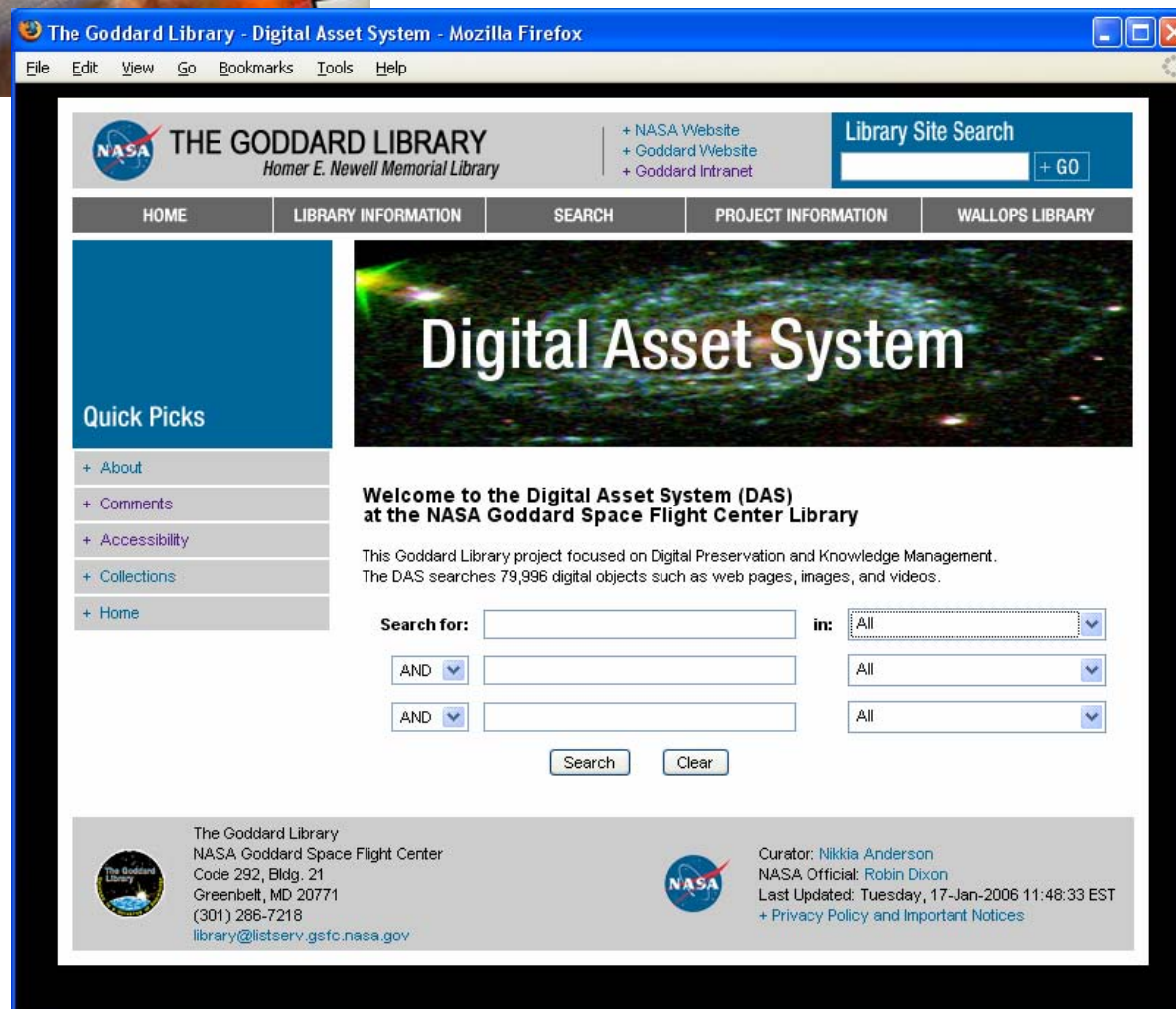
Oral Histories



- Organized by the LPSO Team
- Library's Digital Projects Team video capture, edit and encode the results



DAS as Consistent Interface



Lessons Learned



- Best results come from collaboration early in the project
- However, it is never too late
- Key project documents and meetings are helpful in developing the controlled taxonomy
- Specialized software makes it difficult to capture some material particularly if the licenses are restrictive
- Best to work at the project level

Next Steps



- Looking for additional projects
- Document the system more thoroughly
- Complete mapping of the various taxonomies to the DAS Taxonomy and the NASA-Wide Taxonomy

Benefits



- Provides future retrievability
- Improves real-time retrievability
- Ultimately, consistent approach allows a single search to access across object types, projects, and internal/external information
- Results in more content for the library and greater access for the projects – a real WIN - WIN

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- Ed Rogers, Knowledge Management Office
- Robin Dixon, Goddard Library

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Contact:

Randy Hoffman
NASA Goddard Library

